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LUONG, PETER	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/774,898
Filing Date: February 09, 2004
Appellant(s): RABINER ET AL.

Michael R. Hamlin
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 19 August 2008 appealing from the Office action mailed 12 February 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

3,565,062	Kuris	2-1971
6,723,451	McCullough	4-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

Claims 1, 3-24, 26-34, 36, 40-55, 57-61, and 75-86 have been rejected under 35 U.S.C. 102(b) as being anticipated by Kuris (US 3,565,062).

The patent of Kuris discloses a medical device (abstract) comprising an elongated, flexible probe (43, col. 3, ln. 35-36) comprising a proximal end (45), a distal end (50) and a longitudinal axis (it is inherent that two ends of a tubular structure would have an axis associated along its length) between the proximal end (45) and the distal end (50); a transducer (41, col. 6, ln. 36-39, a piezoelectric material) configured to create a torsional vibration (col. 4, ln. 44-49) along the longitudinal axis of the elongated, flexible probe (43), wherein the ultrasonic probe and the transducer being adapted so that the torsional vibration induces transverse vibration along a portion of the ultrasonic probe (the examiner takes the position that the ultrasonic probe and transducer of Kuris is inherently capable of producing a torsional vibration that induces a transverse vibration as there are no structural differences between the device of Kuris and the present application, col. 4, lines 42-50).

With respect to claims 4-8, 10, 27-29, 41, 46, and 59-60, there are no structural differences between the device of Kuris and the present application. Therefore, the device of Kuris is capable of producing the variations of torsional and transverse vibrations (i.e. inducing, tuning, shifting, segregating, or superimposing) as claimed in the present application.

With respect to claims 3, 18, 26, 36, 42, and 53-54, it is inherent that since the device of Kuris is an ultrasonic probe, it will support vibrations, as the purpose of the device is to transmit vibrations from the probe to the surrounding area (see MPEP 2112).

With respect to claims 9, 11, 13, 44-45, and 47, there are no structural differences between the device of Kuris and the present application. Therefore, the device of Kuris is capable of producing the variations of nodes and anti-nodes (col. 6, ln. 17-21).

With respect to claims 12, 14-15, 43, 61, Kuris also discloses that the torsional vibration and the transverse vibration (col. 4, ln. 44-49) generate acoustic energy in a medium (17) surrounding the ultrasonic probe (43) through an interaction of a surface (50) of the ultrasonic probe (43) and the medium (17) surrounding the ultrasonic probe (43) (i.e. transmits to the vascular system, col. 2, ln. 39-47).

With respect to claim 16 and 51, Kuris discloses an acoustic assembly (36) configured to deliver ultrasonic energy in a frequency range from about 1 kHz to 1000 kHz (col. 3, ln. 5-8) that encompasses the claimed range of 10 to 100 kHz.

With respect to claim 17 and 52, Kuris discloses that the ultrasonic energy source configured to determine (36) a resonant frequency of the transducer (41) and provides an electrical energy to the transducer (41) at the resonant frequency of the transducer (41) (col. 6, ln. 5-11).

With respect to claims 19-20, 22-23,30 and 31, Kuris discloses that the ultrasonic probe (43) comprises an approximately circular cross section (fig. 11, claim 14) from the

proximal end (45) of the ultrasonic probe (43) to the distal end (50) of the ultrasonic probe (43) and the ultrasonic probe (43) comprises a varying cross section from the proximal end (45) of the ultrasonic probe (43) to the distal end (50) of the ultrasonic probe (43) (fig 10, 51c).

With respect to claim 21, Kuris discloses a portion of the longitudinal axis of the ultrasonic probe comprises a radially asymmetric cross section (the cross section of the tip gradually decrease in size and there is a stepwise decrease in cross section from the tubular catheter to the probe, fig. 10).

With respect to claim 32, it is within the level of ordinary skill in the art to dispose of an old or broken probe at a one point in time; furthermore it is recognized as an intended use in.

With respect to claim 33, it is recognized that during a surgical procedure the surgical device is used on the patient undergoing the procedure, furthermore it is recognized as an intended use in which the device of Kuris is capable of performing.

With respects to claims 34, 36, 40-47, 51-55, and 59-61, the device of Kuris inherently discloses the method steps substantially as claimed.

With respect to claim 48-50, Kuris discloses the method step of moving the probe back, rotating the probe, and repositioning the probe to provide a new exposed area (col. 9, ln. 68-74).

With respect to claims 75-86, Kuris discloses wherein the ultrasonic probe has a first region (51c), a second region (42c) that is smaller than the first, and a third region (50c) that is smaller than the second (see figure 10).

Claim Rejections - 35 USC § 103

Claims 37-39 and 57-58 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kuris (US 3,565,062) in view of McCullough et al. (US 6,723,451).

The patent of Kuris discloses the subject matter substantially as claimed with the exception of the method steps of tuning the vibrations.

However the patent of McCullough et al. teaches the method of tuning an ultrasonic horn by altering its length (column 14, lines 35-36). One of ordinary skill in the art would recognize that bending (therefore applying tension) constitutes as altering length.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the methods taught in Kuris in view of the teaching of McCullough to obtain a desired vibration frequency (column 14, lines 35-36).

(10) Response to Argument

I. Claims 1, 3-24, 26-34, 36, 40-55, 57-61, and 75-86.

Appellant contends that Kuris does not disclose a probe and transducer adapted so that a torsional vibration created along the probe induces a transverse vibration along the probe. However, applicant has failed to claim any structural differences between the device of Kuris and the present application. Kuris discloses “the active tool output surface enjoys transverse vibration, compressional vibration, flexural vibrations or torsional vibrations or even combinations of said vibrations”, column 4, lines 42-50. Therefore, the Examiner’s takes the position that the device of Kuris is inherently

capable of producing a torsional vibration that induces a transverse vibration along the probe.

II. Claims 37-39 and 57-58.

Appellant contends that McCullough fails to disclose using a torsional vibration to induce a transverse vibration along the probe. However, McCullough was only relied upon to teach the method of tuning the ultrasound transducer. The Examiner maintains the position that the device of Kuris is inherently capable of producing a torsional vibration that induces a transverse vibration along the probe.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Peter Luong/

Examiner, Art Unit 3737

Conferees:

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

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TC 3700 TQAS